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ABSTRACT

Designed to develop over five years a model bilingual program for nursery school through grade 6, the demonstration program provided early bilingual education intervention to facilitate the simultaneous learning of two languages and thus develop the cognitive, affective, and psychomotor skills of children with limited English speaking ability from low income Mexican American families. External evaluation of the program's fourth year, 1978-79, measured the program's impact on the achievement of the 85 participants in grades 2-5 in the areas of language arts, reading, mathematics, and Spanish language development. Based on comparison of participants' scores on the Comprehensive Test of Basic Skills with those of a control group (55 students), the program generally met its objectives of having participating students with low English proficiency skills (LEPS) and "other" bilingual students equal the control group's achievement in reading, math, and English language skills at grade levels 2-5. "Other" bilingual students had lower scores in all areas at the second grade level and in reading at the third grade level. Analysis of LEPS participants' scores on the Peabody Picture Vocabulary Test revealed a significant gain in Spanish language skills at all grade levels. Additional remedial aid was recommended for "other" bilingual students in all areas at the second grade level and in reading at the third grade level. (SB)

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END-OF-YEAR EVALUATION REPORT
1978-79
FOURTH-YEAR EVALUATION STUDY

A SCHOOL AND HOME-BASED BILINGUAL EDUCATION MODEL
(Grades 2-5)

Funded by:

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June, 1979

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DOCUMENT RESUME



TITLE: A School and Home-Based Bilingual Education Model: End-of-Year Evaluation Report, 1978-79 (Fourth-Year Evaluation Study).

INSTITUTION: Askins, (B.E.) and Associates, Lubbock, Texas; Clovis Public Schools, New Mexico; and Texas Tech University

SPONS. AGENCY: Bureau of Elementary and Secondary Education; ESEA, Title VII (Bilingual Education Project), (DHEW/OE) Washington, D.C.

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ABSTRACT: This report is the results of the fourth-year external evaluation of a program designed to develop, over a five-year period, a model bilingual program from the nursery school level (beginning at age 3) through grade six for the Clovis Municipal Schools. The program attempts to implement innovative and tested instructional bilingual-bicultural materials so as to better serve children in limited English speaking ability from low-income families. During the 1978-79 school year, the program consisted of grades 2-5 with approximately 85 students.

The primary focus of the 1978-79 evaluation was to measure the impact of the program as concerns student achievement (language arts, reading, and math skills). Achievement was defined as gain scores obtained on the Comprehensive Test of Basic Skills (CTBS). Achievement in the area of language development in Spanish was defined as gain scores from the Spanish version of the Peabody Picture Vocabulary Test (Form B). The data from the CTBS were analyzed by one-way analysis of covariance using the pretest as the covariate. The PPVT data (Spanish) were analyzed by a t-test.

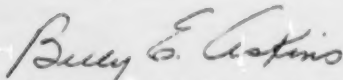
As concerns language arts, reading, math, and Spanish, those students screened and identified as having limited proficiencies in English (LEPS), as well as the other bilingual students, scored equally as well as students in the control group. Specific program recommendations for the 1979-80 school year are included in the report as well.

FOREWORD

This end-of-year evaluation report describes the effect of the project, "A School and Home-Based Bilingual Education Model," during 1978-79. This evaluation study was conducted by an independent consultant and service organization with its direction primarily through various faculty members of the College of Education, Texas Tech University. This report is submitted in accordance with the approved Evaluation Proposal dated September 1, 1978 and the Educational Evaluation Agreement dated October 6, 1978.

The evaluation team recognizes and hereby expresses appreciation to the project director, faculty, and staff of the project for their excellent cooperation during the evaluation process.

The invaluable assistance of the various professional and paraprofessional personnel on the evaluation team is also acknowledged and appreciated.



Billy E. Askins, Ed.D.
Evaluation Coordinator
June, 1979

TABLE OF CONTENTS

	Page
LIST OF TABLES	i
SECTION	
I. INTRODUCTION AND DESCRIPTION OF THE PROJECT	1
Introduction	
Purpose and Goal of Project	
Purpose	
Major Goal	
Objectives	
II. EVALUATION	3
The External Evaluation	
Purpose of the External Evaluation Study	
Evaluation Design	
Analytical Procedure	
Other Evaluation Data	
Item Analysis of the CTBS	
On-Going Evaluation Activities	
In-Service Needs Assessment of Teachers	
Community Survey	
III. EVALUATION DATA	6
Number of Students in Program	
Evaluation Design	
Findings	
Other Evaluation Data	
Item Analysis of the CTBS	
In-Service Needs Assessment of Teachers	
Community Service	
IV. SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS	11
Summary	
Findings	
Conclusions	
Objective 1 - Language Arts	
Objective 2 - Reading	
Objective 3 - Math	
Objective 4 - Spanish	
Recommendations	
BIBLIOGRAPHY	15

LIST OF TABLES

<u>Number</u>		<u>Page</u>
I	Comparison of LEPS, Other Bilingual, and Regular Students by Grade in Reading, Language Arts, and Mathematics	8 - 9
II	Pre and Posttest Analysis of Scores of the Language . . . Development in Spanish	10

SECTION I

INTRODUCTION AND DESCRIPTION OF THE PROJECT

INTRODUCTION

This report describes the fourth-year external evaluation study of the project, A School and Home-Based Bilingual Education Model, conducted at La Casita Elementary School by the Clovis Municipal Schools, Clovis, New Mexico. This report covers the period July 1, 1978 - May 31, 1979.

This project, a demonstration model, was initially started during the 1972-73 school year at the Kindergarten level and was later expanded upward by adding one grade level each year. During the 1978-79 school year, the project consisted of grades 2-5 with approximately 85 students.

Purpose and Goal of Project

Purpose

The purpose of this project is to develop, over a five-year period, a model bilingual program from the nursery school level (beginning at age 3) through grade six for the Clovis Municipal Schools. The project attempts to implement innovative and tested instructional bilingual-bicultural materials so as to better serve children with limited English speaking ability from low-income Mexican American families.

Major Goal

The major goal of the project is: to provide an early bilingual education intervention which will facilitate the learning of two languages (Spanish and English) simultaneously in an effort to effectively develop the children's cognitive, affective, and psychomotor skills. To accomplish this goal, specific objectives were developed.

Objectives

The major performance objectives for students in the bilingual program in grades 2-5 are as follows:

At the end of the 1978-79 academic year, students in the bilingual program will:

1. Score equally as well as students in the control group in the area of language arts (English). Evidence of achievement will be determined from gain scores of the sub-test of the Comprehensive Test of Basic Skills (CTBS).

2. Score equally as well as students in the control group in the area of reading. Evidence of achievement will be determined from gain scores of the sub-test of the Comprehensive Test of Basic Skills (CTBS).
3. Score equally as well as students in the control group in the area of math. Evidence of achievement will be determined from gain scores of the sub-test of the Comprehensive Test of Basic Skills (CTBS).
4. Indicate a significant gain in language development in Spanish. Evidence of achievement will be determined from gain scores of the Spanish version of the Peabody Picture Vocabulary Test (Form B).

SECTION II

EVALUATION

The External Evaluation

In addition to the on-going internal program evaluation procedures, an external evaluation study was conducted by an outside independent evaluator. This external evaluation study was conducted by B. E. Askins and Associates, Lubbock, Texas. This is an independent consultant and service organization with its direction primarily through various faculty members of the College of Education, Texas Tech University. Members of the evaluation team consisted of professional people with various specializations including: early childhood and elementary education; bilingual education; and research and evaluation. Names of the members of the evaluation are listed on the cover of this report.

Purpose

Purpose of the External Evaluation Study

The major purpose of this evaluation study was to collect and provide information necessary for decision-making relative to student and program progress. Such information was provided to the project director, local education agency and to the funding agency.

Major elements of this external evaluation consisted of:

1. Providing a variety of professional personnel to the evaluation of the project. This included personnel to conduct in-service training for teachers, site-visits, analysis, and report writing.
2. Providing the project director with data which could be used in program planning and operation. These data consisted of an item analysis of the Comprehensive Test of Basic Skills (CTBS) of students in the 6th grade. These data were used in program planning and operation.
3. Preparing reports
 - a. An Interim Report was submitted to the project director on December 1, 1978.
 - b. The Final Evaluation Report was submitted to the project director on June 12, 1979.
4. Disseminating evaluation reports and other information pertaining to the operation of the project.

Evaluation Design

The purpose of this evaluation design is to measure the impact of the Bilingual Program on achievement of students participating in the program. Achievement was defined as gain scores obtained on the Comprehensive Test of Basic Skills (CTBS) using the subtests in the areas of language arts (English), reading and math. Achievement in the area of language development in Spanish was defined as gain scores from the Spanish version of the Peabody Picture Vocabulary Test (Form B).

This design provided comparison of students participating in the Bilingual Program with similar students not participating in the program. The design was utilized for each of the grade levels (2-5) involved in the program by each program objective.

As concerns the CTBS, the data were collected on a Spring to Spring basis with the Spring of 1978 data designated as pretest scores and the Spring of 1979 as posttest scores. As concerns the PPVT (Spanish), data were collected on pre and posttest basis with the Fall of 1978 designated as pretest scores and Spring of 1979 as posttest scores.

This design can be depicted as:

$$\begin{array}{cc} T_1 & \times & T_2 \\ T_1 & & T_2 \end{array}$$

Where:

T_1 = Spring 1978 pretest

T_2 = Spring 1979 posttest

X = Bilingual Program

This design was followed for each grade level (2-5) involved in the program.

Analytical Procedure

As concerns the data obtained from the CTBS, data were analyzed by one-way analysis of covariance using the pretest as covariates. As concerns the data from the PPVT (Spanish), data were analyzed with a t-test. Means and summary analysis of covariance are presented for each grade and objective.

Other Evaluation Data

Item Analysis of the CTBS. An item analysis of responses from the Comprehensive Test of Basic Skills (CTBS) from students who were in the sixth grade (1977-78) at La Casita Elementary School was conducted. The purpose of this analysis was to develop a profile of students in the sixth grade so as to make the teachers aware of some of the academic strengths and weaknesses of the

students and of the curriculum. Such data was used in curriculum planning.

On-Going Evaluation Activities. In addition to the above stated measures (pre and posttests), there were on-going subjective evaluation activities. This consisted mainly of site-visits by the evaluation team so as to observe and become familiar with the daily operation of the project. Such observation was necessary so as to become familiar with the educational setting of the various measures.

In-Service Needs Assessment of Teachers. A needs assessment of the desired inservice training needs of the teachers and aides was conducted. The instrument was collaboratively developed by the teachers in the project and members of the evaluation team. The purpose of the needs assessment was to create a data base for planning the inservice training for the La Casita teachers for the school years of 1978-79 and 1979-80.

Community Survey. A community survey was conducted for the purpose of obtaining opinions from parents and other community members about the Bilingual Education Project and the other school related matters.

SECTION III

EVALUATION DATA

The external evaluation was designed to measure the impact of the bilingual program on students participating in the program as concerns student achievement in the areas of language arts, reading, mathematics, and language development in Spanish. Achievement in the areas of language arts, reading, and mathematics was defined as gain scores obtained from the respective sub-tests of the Comprehensive Test of Basic Skills (CTBS), and achievement in Spanish was defined as gain scores from the Peabody Picture Vocabulary Test - Spanish (PPVT).

Number of Students in Program

Students screened and identified as having limited proficiencies in English (LEPS) were assigned to the Bilingual Education Program by placing them in the appropriate bilingual section of grades 2-5. In addition to assigning the LEP students to one of these 4 sections, other students requesting bilingual instruction were also placed in the bilingual sections. Thus, the four bilingual classrooms consisted of two classifications of students - LEPS and other bilingual students. The number of students in the various sections/grades who were available for both pre and posttesting were as follows:

<u>Grade</u>	<u>LEPS</u>	<u>Other</u>	<u>Total Bilingual</u>	<u>Regular Classroom</u>
2	14	8	22	14
3	13	5	18	13
4	15	5	20	15
5	<u>7</u>	<u>8</u>	<u>15</u>	<u>13</u>
N =	49	26	75	55

Evaluation Design

As detailed in the approved 1978-79 Evaluation Proposal and the previous section of this report, the basic design used for testing the program objectives was to compare the CTBS sub-test scores of language arts, reading, and mathematics of students in grades 2-5. The CTBS data were collected on a Spring (78) to Spring (79) basis. In addition, pre (Sept., 78) and posttest (May, 79) scores from Peabody Picture Vocabulary Test - Spanish were collected from only the LEPS. Achievement of students in the bilingual sections (LEPS and other bilingual students) were then compared to the achievement of students in the regular/traditional classroom (control group). Achievement of the two

classifications of students in the bilingual program were reported separately.

The CTBS data were analyzed by one-way Analysis of Covariance using the pretest scores as covariates. Data from the PPVT - Spanish test were analyzed with a t-test.

Findings

Analysis of data from the CTBS scores by sub-test and grade level are presented in Table I which is on the next page.

TABLE I

COMPARISON OF LEPS, OTHER BILINGUAL, AND REGULAR STUDENTS BY GRADE IN READING, LANGUAGE ARTS, AND MATHEMATICS

AREA	GROUP	POSTTEST MEAN	F
GRADE 2			
Reading	LEPS	35.23	.47
	Other Bilingual	31.36	
	Regular	38.33	
Language Arts	LEPS	42.38	.88
	Other Bilingual	33.90	
	Regular	38.80	
Mathematics	LEPS	36.75	.09
	Other Bilingual	35.43	
	Regular	37.40	
Grade 3			
Reading	LEPS	42.09	1.27
	Other Bilingual	31.92	
	Regular	41.30	
Language Arts	LEPS	54.44	.43
	Other Bilingual	44.00	
	Regular	52.00	
Mathematics	LEPS	58.31	.49
	Other Bilingual	51.64	
	Regular	51.75	
Grade 4			
Reading	LEPS	55.46	.67
	Other Bilingual	53.47	
	Regular	47.86	
Language Arts	LEPS	72.40	1.01
	Other Bilingual	66.00	
	Regular	64.80	
Mathematics	LEPS	72.93	.23
	Other Bilingual	69.40	
	Regular	69.40	
Grade 5			
Reading	LEPS	64.83	.31
	Other Bilingual	60.50	
	Regular	58.16	
Language Arts	LEPS	78.12	.21
	Other Bilingual	71.20	
	Regular	70.11	
Mathematics	LEPS	76.81	.63
	Other Bilingual	75.14	
	Regular	70.20	

Analysis of data indicated the following:

1. For grade 2, no significant difference was found between LEPS, other bilingual, and regular students in reading, language arts, and mathematics. However, post-hoc analyses indicated that LEPS and regular students scored significantly higher than other bilingual students.
2. For grade 3, no significant difference was found between the three grades in reading, language arts, and mathematics. Post-hoc analyses indicated a significant difference between LEPS and regular students and other bilingual in reading showing significantly lower scores for the other bilingual students.
3. For grade 4, LEPS students scored consistently higher on the three sub-test than other bilingual and regular students. However, the three groups did not differ significantly. Post-hoc analyses also indicated no significant difference.
4. For grade 5, LEPS students again scored higher on the three sub-tests than students in the other groups. However, these differences were not significant. Post-hoc analyses failed to show any differences between groups.

Table 2 presents the results of the language development test in Spanish.

TABLE II

PRE AND POSTTEST ANALYSIS OF SCORES OF THE LANGUAGE DEVELOPMENT IN SPANISH

TEST	GRADE	MEAN	GAIN	t	P
PPVT(SP)	2	Pre	38.71		
		Post	59.31	20.60	3.84
	3	Pre	45.36		
		Post	66.18	20.82	3.98
	4	Pre	71.80		
		Post	81.12	9.32	2.06
	5	Pre	69.71		
		Post	83.14	13.43	4.16

As noted in the table, the pretest - posttest analysis indicated a significant gain in language development in Spanish for all grade levels.

Other Evaluation Data

Item Analysis of the CTBS

An item analysis of scores of the Comprehensive Test of Basic Skills (CTBS) of students in the 6th grade at La Casita Elementary School was conducted. The purpose of this analysis was to develop a profile of the students in the 6th grade so as to make the teachers aware of some of the academic strengths and weaknesses of the students. Such data was used in program planning. This item analysis data were presented to the teachers in an in-service training session on September 14, 1978 by various members of the evaluation team. A complete report of the results of this analysis was provided to the project director.

In-Service Needs Assessment of the Teachers

A needs assessment of the desired training of the teachers at La Casita Elementary School was conducted. The 40 item instrument, which was administered in April, 1979, was developed through a collaborative effort involving the La Casita teachers and various members of the evaluation team.

Seventeen teachers and aides responded to the instrument. When the data were compiled, tabulations of the teachers' responses were computer scored, utilizing a correlated *t*-test. The means of where the participants were on each question/competency were compared to where they desired to be, and then divided by the standard deviation of each of the groups. This process established a need index based on the number of standard deviations from the present competency (where the participant perceived to be) to the desired training (where the participant desires to be). The greater the index, the greater need for training. A complete and separate report of this analysis was provided to the project director.

Community Survey

A community survey was conducted during the month of April, 1979. The purpose of the survey was to obtain opinions from parents and other community members concerning the Bilingual Education Project as well as other school related matters. The instrument used consisted of 50 statements which parents and other community members were requested to respond concerning school related matters. The instrument used was collaboratively developed by various members of the evaluation team, the project director, the principal, selected teachers, and members of the Parent Advisory Committee. The results of this survey were provided to the project director in a separate report.

SECTION IV

SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The project was initially started at the Kindergarten level and was later expanded upward by adding one grade level each year. During the 1978-79 school year, the project included grades 2-5 with approximately 85 students.

The major purpose of the external evaluation study during 1978-79 was to measure the impact of the Bilingual Education Program on achievement of students in the areas of language arts, reading, math, and language development in Spanish.

The evaluation design used for testing the objectives was a comparison of the CTBS sub-test scores in language arts, reading, and math. The CTBS data were collected on a Spring (78) to Spring (79) basis. In addition, pre (Sept., 78) and posttest (May, 79) scores from the Spanish version of the Peabody Picture Vocabulary Test were collected from only the LEPS. Achievement of students in the bilingual sections (LEPS and other bilingual students) were then compared to the achievement of students in the regular/traditional classrooms. Achievement of the two classifications in the bilingual program were reported separately.

The CTBS data were analyzed by one-way Analysis of Covariance using the pretest scores as covariates. The data from the Spanish test were analyzed with a t-test.

Findings

A summary of the findings of this study, by grade, is presented in the following paragraphs.

Grade 2

As concerns achievement in the areas of reading, language arts, and math, no significant difference was found between the LEPS, other bilingual and students in the regular/traditional classroom; however, post-hoc analyses indicated that the LEPS and the students in the regular classrooms scored significantly higher than the other bilingual students.

As concerns language development in Spanish, the LEPS indicated a significant gain score ($MG=20.60$, $p < .01$).

Grade 3

As concerns achievement in the areas of reading, language arts, and math, no significant difference was found between the LEPS, other bilingual students, and students in the regular/traditional classroom. Post-hoc analyses indicated

that in the area of reading, a significant difference was found between the LEPS and the regular students and the other bilingual students showing significantly lower scores for the other bilingual students.

As concerns language development in Spanish, the LEPS indicated a significant gain score ($MG=20.82$, $p < .01$).

Grade 4

As concerns achievement in the areas of reading, language arts, and math, the LEPS scored consistently higher in the three areas than the other bilingual students and students in the regular/traditional classroom; however, the three groups did not differ significantly. Post-hoc tests also indicated no significant difference.

As concerns language development in Spanish, the LEPS indicated a significant gain score ($MG=9.32$, $p < .05$).

Grade 5

As concerns achievement in the areas of reading, language arts, and math, the LEPS scored higher than the other bilingual students and students in the regular/traditional classroom; however, these differences were not significant. Also, post-hoc analyses failed to show any significant difference between the groups.

As concerns language development in Spanish, the LEPS indicated a significant gain score ($MG=13.43$, $p < .01$).

Conclusions

Based upon the findings of this study, the major conclusions as related to the objectives were:

Objective 1 - Language Arts

Grade 2. In the area of language arts, the LEPS scored equally as well as students in the control group; however, the other bilingual students did not score equally as well as students in the control group or as well as the LEPS.

Grade 3. In the area of language arts, the LEPS and the other bilingual students scored equally as well as students in the control group.

Grade 4. In the area of language arts, the LEPS and the other bilingual students scored equally as well as students in the control group.

Grade 5. In the area of language arts, the LEPS and the other bilingual students scored equally as well as students in the control group.

Objective 2 - Reading

Grade 2. In the area of reading, the LEPS scored equally as well as students in the control group; however, the other bilingual students did not score equally as well as students in the control group or as well as LEPS.

Grade 3. In the area of reading, the LEPS scored equally as well as students in the control group; however, the other bilingual students did not score equally as well as students in the control group or as well as the LEPS.

Grade 4. In the area of reading, the LEPS and the other bilingual students scored equally as well as students in the control group.

Grade 5. In the area of reading, the LEPS and the other bilingual students scored equally as well as students in the control group.

Objective 3 - Math

Grade 2. In the area of math, the LEPS scored equally as well as students in the control group; however, the other bilingual students did not score equally as well as students in the control group or as well as the LEPS.

Grade 3. In the area of math, the LEPS and the other bilingual students scored equally as well as students in the control group.

Grade 4. In the area of math, the LEPS and the other bilingual students scored equally as well as students in the control group.

Grade 5. In the area of math, the LEPS and the other bilingual students scored equally as well as students in the control group.

Objective 4 - Spanish

Grades 2-5. The LEPS at each grade level made a significant gain in language development in Spanish.

Recommendations

Based upon the findings, conclusions, and other data obtained during this study, the following suggestions or recommendations were made:

1. That students in the bilingual program identified as "other bilingual students" in the second grade (during 1978-79) be provided additional remedial assistance in the areas of language arts, reading, and math during the 1979-80 school year.

2. That students in the bilingual program identified as "other bilingual students" in the third grade (during 1978-79 be provided additional remedial assistance in the area of reading during the 1979-80 school year.

3. That the external evaluation study be expanded to include process as well as product evaluation.

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